

Claims

- [c1] 1.A device for configuring an inflatable balloon of a balloon catheter assembly, the device comprising:
a body comprising a plurality of inflatable members defining a channel therebetween, the channel sized to accommodate at least a portion of a balloon catheter, each inflatable member having a balloon contacting portion, the inflatable members inflatable from a first size to a second size in which the balloon contacting portions apply an inward force to a balloon of a balloon catheter assembly disposed in the channel.
- [c2] 2.The device of claim 1 wherein the inflatable members are disposed about the circumference of a circle.
- [c3] 3.The device of claim 1 comprising at least three inflatable members.
- [c4] 4.The device of claim 3 wherein the inflatable members are generally tubular and have a circular cross-section.
- [c5] 5.The device of claim 3 wherein the inflatable members are generally tubular and have a generally wedge or pie-shaped cross-section.
- [c6] 6.The device of claim 3 wherein the body further comprises a rigid tube in which the plurality of inflatable members are constrained, the tube having a first end with a first opening and a second end with a second opening and a passage therethrough.
- [c7] 7.The device of claim 6 further comprising first and second end caps, the first end cap disposed at the first end of the tube across the first opening and the second end cap disposed at the second end of the tube across the second opening.
- [c8] 8.The device of claim 7 wherein the inflatable members extend from the first and second end caps, the inflatable members in relative alignment with one another, the first and second end caps supporting the inflatable members.
- [c9] 9.The device of claim 8 wherein the first end cap has an opening therethrough sized to receive at least a portion of a balloon catheter therethrough.
- [c10] 10.The device of claim 1 wherein the plurality of inflatable members includes at

least two inflatable members disposed end-to-end along the length of the channel.

[c11] 11.The device of claim 1 wherein the plurality of inflatable members are disposed in one or more spirals about the channel.

[c12] 12.The device of claim 1 wherein the plurality of inflatable members includes at least two inflatable members which are circumferentially and axially displaced from one another.

[c13] 13.The device of claim 12 wherein the inflatable members which are circumferentially and axially displaced from one another are shorter in length than the balloon.

[c14] 14.In combination, the device of claim 1 with a balloon portion of a balloon catheter assembly disposed in the channel.

[c15] 15.The device of claim 1 wherein each of the inflatable members has an inflation lumen which opens into the inflatable member at a first end of the device and the balloon has an inflation lumen which opens into the balloon at a second end of the device opposite the first end of the device.

[c16] 16.A device for configuring an inflatable balloon of a balloon catheter assembly, the device comprising:
a body comprising an inflatable member having at least one balloon contacting portion,
a catheter support member constructed and arranged relative to the body to support a balloon catheter assembly so that the balloon is in a region adjacent the balloon contacting portion of the inflatable member.

[c17] 17.The device of claim 16 wherein the inflatable member comprises a plurality of balloon contacting portions.

[c18] 18.The device of claim 17 wherein the balloon contacting portions are spaced about the circumference of a circle and the catheter support member is constructed and arranged to support a balloon of a balloon catheter assembly in a region between the balloon contacting portions.

[c19] 19.The device of claim 17 further comprising a rigid tube in which the inflatable

member is constrained, the tube having a first end with a first opening and a second end with a second opening and a passage therethrough.

- [c20] 20.The device of claim 19 further comprising at least one constraining member disposed between adjacent balloon contacting portions.
- [c21] 21.The device of claim 20 wherein the constraining member is in the form of a slat.
- [c22] 22.The device of claim 16 wherein the balloon contacting portion is made of a compliant material and the remainder of the balloon is made of a non-compliant material.
- [c23] 23.The device of claim 16 comprising a plurality of said inflatable member, each of which has a balloon contacting portion, the inflatable members disposed about the circumference of a circle, the catheter support member constructed and arranged to support a balloon of a balloon catheter assembly in a region between the balloon contacting portions.
- [c24] 24.The device of claim 16 wherein the inflatable member has an inflation lumen which opens into the inflatable member at a first end of the device and the balloon has an inflation lumen which opens into the balloon at a second end of the device opposite the first end of the device.
- [c25] 25.A method of configuring at least a portion of a medical balloon comprising the steps of:providing a device as in claim 1 ;
disposing a medical balloon between the inflatable members;
at least partially inflating the medical balloon;
inflating the inflatable members so that the balloon contacting portions deform portions of the medical balloon inward;
at least partially deflating the medical balloon, the inwardly deformed portions of the medical balloon forming a plurality of balloon folds; and
removing the inflatable members from about the medical balloon.
- [c26] 26.The method of claim 25 wherein each of the balloon folds extends along the entire length of the balloon.
- [c27] 27.The method of claim 25 wherein each of the balloon folds extends spirally about the balloon.